Air Pollution Control Permit Number: ROP-A01

DRAFT
AIR POLLUTION CONTROL
TYPE A
REGISTRATION OPERATION PERMIT (ROP)

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code, the permittee granted coverage under this permit is authorized to operate a direct stationary source in conformity with the conditions herein.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in this permit.

Dated at Madison, Wisconsin, (DRAFT)

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By (DRAFT)
Jeffrey C. Hanson
Section Chief, Permits and Stationary Source Modeling

A. EMISSION LIMITATIONS

1. Facility Emission Limits:
Emissions from the facility, as calculated using the control device efficiencies in Table 2. of Section F. of this permit, or alternative control efficiencies determined during Department-approved emission tests[1], may not exceed the limits in Table 1., on a calendar year basis. [s. 285.65(7) and (14), Wis. Stats., and s. NR 407.105(2)(a)1., Wis. Adm. Code]

Table 1. Registration Operation Permit Annual Emission Limits

Pollutant	Emission Limits[2]
Particulate Matter or PM_{10}	• 25 ton/year for attainment areas • 17.5 ton/year for serious nonattainment areas
Volatile Organic Compounds (VOCs)	• 25 ton/year for attainment and marginal or moderate nonattainment areas • 12.5 ton/year for serious nonattainment or areas within ozone transport regions except for any severe or extreme nonattainment area for ozone • 6.25 ton/year for severe nonattainment areas • 2.5 ton/year for extreme nonattainment areas
Nitrogen Oxides	• 25 ton/year
Sulfur Dioxide	• 25 ton/year
Carbon Monoxide	• 25 ton/year for attainment and moderate nonattainment areas • 12.5 ton/year for serious nonattainment areas, where the Department determines a stationary source contributes significantly to carbon monoxide levels in the area
Lead	• 0.5 tons/year
Section 112(b) Hazardous Air Pollutants (HAPs)[3]	• 2.5 ton/year for any *single* pollutant • 6.25 ton/year for a *combination* of all pollutants

2. Organic Compound Limitations:
The owner or operator shall meet the organic compound limitations contained in Section E. of this permit, as applicable. [s. NR 424.03, Wis. Adm. Code]

3. Other Applicable Requirements:
The owner or operator shall meet all applicable air pollution requirements in ch. 285, Wis. Stats., and chs. NR 400 to NR 499, Wis. Adm. Code, and all applicable federal air pollution requirements in the Clean Air Act (42 USC 7401 to 7671q) and 40 CFR parts 50 to 97. [s. 285.65(3) and (13),Wis. Stats.]

4. Prohibited Changes Related to MACT and NSPS:
The owner or operator may not make any change that would cause the facility to be subject to any Maximum Achievable Control Technology (MACT) or New Source Performance Standard (NSPS) other than those listed in Section G. of this permit. [s. 285.65(7), Wis. Stats.]

B. COMPLIANCE DEMONSTRATION METHODS

1. Air Pollution Control Device Operation, Monitoring and Maintenance:
If a source at the facility is equipped with an air pollution control device, the owner or operator shall:

[1] An alternate control efficiency determined during a Department approved emission test may only be used for the specific emission unit(s) for which the emission test was done (i.e., the control efficiency may not be used for other like units at the facility).
[2] You may contact your facility's assigned compliance engineer for help in determining the attainment status of your facility's location. A compliance staff list is available at http://www.dnr.state.wi.us/org/aw/air/reg/countyresp.pdf.
[3] See Table 5. in Section H. of this permit for a list of section 112(b) HAPs.

a. When it is necessary to use the control device to meet an emission limit in A.1. or any other emission limit, operate the control device when the associated emission unit(s) are in operation.

b. Monitor the operation of the control device to ensure that it is operating properly. The parameters to be monitored and the frequency of monitoring are contained in Table 3. of Section F. of this permit.

c. Perform maintenance on the control device as recommended by the control device manufacturer, or at a frequency based on good engineering practice as established by operational history, whichever is more frequent.

[ss. 285.65(3) and (7), Wis. Stats and NR 407.105(1)(c) and NR 439.055, Wis. Adm. Code]

2. Accuracy of Air Pollution Control Device Monitoring Instrumentation:

When the Department requires instrumentation to monitor the operation of air pollution control equipment, or to monitor source performance, in this permit, the instrument shall measure operational variables with the following accuracy:

a. The temperature monitoring device shall have an accuracy of 0.5% of the temperature being measured in degrees Fahrenheit or ± 5 °F of the temperature being measured, or the equivalent in degrees Celsius (centigrade), whichever is greater.

b. The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ± 1 inch of water column, whichever is greater.

c. The current, voltage, flow or pH monitoring device shall be accurate to within 5% of the specific variable being measured.

[s. NR 439.055(3), Wis. Adm. Code]

3. Calibration of Air Pollution Control Device Monitoring Instrumentation:

All instruments used for measuring source or air pollution control equipment operational variables shall be calibrated yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. [s. NR 439.055(4), Wis. Adm. Code]

4. Stack and Air Dispersion Modeling Requirements[4]:

a. If the owner or operator demonstrated eligibility for this registration operation permit, in part, by meeting the stack criteria in s. NR 407.105(2)(a)2. and 3., Wis. Adm. Code, then:

(1) The stack-vented emissions from the facility shall be exhausted from unobstructed discharge points that are within 10 degrees of vertical.[5] This condition does not apply to stacks serving any of the emission units listed in s. NR 407.05(4)(c)9., Wis. Adm. Code. For purposes of this condition, horizontal discharge vents that only discharge general building ventilation are not considered stacks.

(2) Each stack at the facility must be taller than any building that influences the dispersion of emissions from the stack. A building is considered to influence the dispersion of emissions from any stack that exists within a circle around the building, the radius of which is 5 times the height of the building. This condition does not apply to stacks serving any of the emission units listed in s. NR 407.05(4)(c)9., Wis. Adm. Code. For the purposes of this condition, horizontal discharge vents that only discharge general building ventilation are not considered stacks.

(3) If the owner or operator adds or changes any stacks after the date of coverage of the facility under this registration operation permit, the stacks shall either meet the requirements of B.4.a.(1) and (2), above, or the owner or operator shall demonstrate through an air dispersion modeling analysis that the change will not cause or exacerbate a violation of any particulate matter, PM-10, sulfur oxide, carbon monoxide, nitrogen oxide or lead air quality standard or increment. If the owner or operator chooses to conduct a modeling analysis, then all future stack additions and changes must be assessed using a modeling analysis.

b. If the owner or operator demonstrated eligibility for this registration operation permit, in part, by conducting an air dispersion modeling analysis for particulate matter, PM-10, sulfur oxide, carbon monoxide, nitrogen oxide and lead as allowed in s. NR 407.105(2)(a)4. Wis. Adm. Code, then:

[4] For the purposes of the air dispersion modeling requirements of this condition, if no air dispersion model is available for one or more pollutants of concern, then the owner or operator may rely on the analysis done by the Department for its preliminary determination for this registration permit.

[5] Valves designed to open and close at the point of discharge are considered to be unobstructed if they are open at the time of emission.

(1) The owner or operator shall maintain a copy of the inputs and outputs for the most recent air dispersion modeling analysis for as long as the facility is covered by this permit[6];

(2) The owner or operator may not change the stacks included in the air dispersion modeling analysis in such a way that would reduce the dispersion of the pollutants emitted from the stacks unless the owner or operator demonstrates through an air dispersion modeling analysis that the change will not cause or exacerbate a violation of any air quality standard or increment.[7]

(3) If the owner or operator adds any stacks after the date of coverage of the facility under this registration operation permit, or if the owner or operator makes changes to any existing stacks which would result in an increase in the ambient impact of the stack's emissions[8], the owner or operator shall demonstrate through an air dispersion modeling analysis that the change will not cause or exacerbate a violation of any particulate matter, PM-10, sulfur oxide, carbon monoxide, nitrogen oxide or lead air quality standard or increment.

[ss. NR 407.105(2)(a)2. to 4., Wis. Adm. Code]

5. Efficiency of Air Pollution Control Devices:
If a source at the facility is equipped with an air pollution control device, the device shall meet the minimum control efficiency shown in Table 2. of Section F. of this permit at all times that the control device is operating. [s. NR 407.105(1)(c), Wis. Adm. Code]

C. RECORDKEEPING REQUIREMENTS

1. Records to Calculate Emissions:
The owner or operator shall maintain annual records sufficient to calculate calendar year emissions for the facility as required in Condition C.2. These records shall include the following, as applicable:[9]

a. VOC and s. 112(b) Clean Air Act Hazardous Air Pollutant (HAP) Records: If VOC or materials which are HAPs regulated under s. 112 (b) of the Clean Air Act are used at the facility, the owner or operator shall:

(1) By March 1 of each year, calculate and record the amount of each VOC- and HAP-containing material purchased or used (whichever is used as the basis for calculating emission) at the facility during the previous calendar year.

(2) For each VOC- and HAP-containing material used at the facility, maintain a record of the material safety data sheet (MSDS), or other equivalent document, which indicates the VOC and HAP contents of the material.

b. Material or Product Throughput Records: If the owner or operator utilizes the quantity of material handled or throughput, or product produced, for a source to calculate emissions from the process, the owner or operator shall, by March 1 of each year, record the quantity of material handled, throughput, or product produced (whichever is used to calculate emissions) for the process for the previous calendar year

c. Fuel Records: If fuel is burned at the facility, the owner or operator shall, by March 1 of each year, record the amount of fuel purchased or used (whichever is used to calculate emissions) at the facility for the previous calendar year.

d. Hours of Operation Records: If the owner or operator utilizes the hours of operation of a source to calculate the emissions, the owner or operator shall, by March 1 of each year, calculate and record the hours operated for the source for the previous calendar year, rounded to the nearest hour.

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[6] Maintaining an electronic copy of the input and output files for the analysis are sufficient as long as the files are appropriately backed up.

[7] Examples of changes which would reduce the dispersion of pollutants would include reducing the stack height, increasing the stack diameter, reducing the exit velocity of the stack gases (e.g., addition of a rainhat). If you are not sure if a change will reduce the dispersion of emissions, please contact your DNR compliance inspector. A list of DNR air compliance staff, by county is available at http://www.dnr.state.wi.us/org/aw/air/reg/countyresp.pdf

[8] Examples of changes that may result in an increase in the ambient impact of a stack's emissions include, but are not limited to: a decrease in the stack height, an increase in the stack diameter, the addition of a stack obstruction (e.g., rainhat), a decrease in the exhaust flow rate of the stack, and/or moving the stack closer to the facility's property boundary.

[9] It is not necessary to keep these records for "insignificant" emissions units. For the purposes of this requirement, insignificant emission units are defined as those listed in s. NR 407.05(4)c.9., Wis. Adm. Code.

[ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

2. Total Facility Emission Records:
By March 1 of each year, the owner or operator shall calculate and record the total emissions from the facility of each pollutant contained in Table 1. of Section A. of this permit, for the previous calendar year. [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

3. Air Pollution Control Device Monitoring Records:
For each source equipped with a control device, the owner or operator shall maintain records of the appropriate control device parameters listed in Table 3. of Section F. of this permit, at the specified frequency. [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

4. Air Pollution Control Device Operational Parameter Ranges:
The owner or operator shall maintain a list of the proper control device parameter ranges for each control device at the facility. These ranges shall be based on manufacturer's recommendations or good engineering practice as established by operational history.

5. Alternative Control Efficiencies:
If the owner or operator utilizes a control efficiency which is based on a Department approved emission test, the owner or operator shall maintain a record of the results of that emission test. [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

6. Stack Parameter Records:
For each stack at the facility, the owner or operator shall keep and maintain on site technical drawings, blueprints or equivalent records that describe or illustrate the physical stack parameters.[10] [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

7. Air Dispersion Modeling Analysis Recordkeeping:
If the owner or operator demonstrated eligibility for this registration operation permit, or demonstrated that a change at the facility would not violate or exacerbate any air quality standard or increment, by performing an air dispersion modeling analysis, the owner or operator shall maintain records of the inputs and outputs for this analysis.[11] [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

8. Changes or Modifications at the Facility:
The owner or operator shall keep records of any physical change to a stack or process at the facility that could result in an increase in emissions or an increase in the ambient impact of the emissions from the facility.[12] These records shall include a description of the change, the date the change was made (i.e., start date of construction or modification) and a statement indicating that, after the change, the facility will continue to qualify for this permit. [ss. NR 407.105(1)(c) and NR 439.04(1)(d), Wis. Adm. Code]

9. Records Retention:
The owner or operator shall keep all records required by this permit for at least five years, unless a different time period is specified elsewhere in this permit. [ss. NR 407.105(1)(c), NR 439.04(1)(d), and NR 439.04(2), Wis. Adm. Code]

[10] If an air dispersion modeling analysis was done for the facility, maintaining a record of the input files for this analysis is sufficient to satisfy this requirement.
[11] If an air dispersion model is not available for one or more pollutants, you may rely on the Department's air quality analysis that it conducted when developing this registration operation permit, for that pollutant.
[12] Examples of changes that may result in an increase in the ambient impact of a facility's emissions include, but are not limited to, addition or modifications of processes, or changes to pollution control devices, stacks parameters, stack locations, and building heights.

D. REPORTING AND NOTIFICATION REQUIREMENTS

1. Annual Summary of Monitoring, Certification of Compliance and Emission Inventory Report:
By **March 1** of each year, the owner or operator shall submit an annual summary of monitoring, compliance certification and emission inventory report[13] to the facility's assigned compliance engineer[14] at the Wisconsin Department of Natural Resources. The owner or operator may ask for, and the Department may grant, a 15 day extension for the submission of this report.

a. The report submission under this condition shall include all of the following:

(1) A compliance certification which contains the following:

(a) Identification of each permit term or condition that is the basis of the compliance certification;

(b) The compliance status of the source with respect to each term or condition identified in (1);

(c) The compliance status of the source with applicable air pollution requirements in ch. 285, Wis. Stats., chs. NR 400 to 499, Wis. Adm. Code, and applicable federal air pollution requirements in the Clean Air Act (42 USC 7401 to 7671q) and 40 CFR parts 50 to 97.

(d) The methods used for determining the compliance status, currently and over the previous 12 month period; and

(2) A summary of monitoring;

(3) An air emission inventory report of annual, actual emissions or throughput information in accordance with ch. NR 438, Wis. Adm. Code.

b. The report shall be certified by a responsible official as to the truth, accuracy and completeness of the report.

c. The time period to be addressed by the report is the January 1 to December 31 period which precedes the report.

[ss. NR 407.105(1)(c), NR 438.03(1)(a) and NR 439.03(1)(b) and (c), Wis. Adm. Code]

2. Change of Ownership or Control:
Prior to a change in the ownership or control of this facility, the new owner or operator must notify the Department of the change. The notification shall include a written agreement between the current and new owner which sets forth a specific date for the transfer of permit responsibility, coverage and liability. [s. NR 407.105(1)(c), Wis. Adm. Code]

3. Changes Rendering Your Facility Ineligible for This Permit:
If the owner or operator wants to make a change at the facility that will result in the facility no longer being eligible for this permit:

a. Before making the change, submit to the Department a permit application for a construction permit, unless the change is exempt under ch. NR 405, 406 and 408.

b. Before making the change, request in writing that coverage under this registration operation permit be withdrawn and submit to the Department a permit application for a different type of operation permit for the facility.

c. The owner or operator may not make the change until any required air pollution control construction or operation permit(s) are obtained.

[s. NR 407.105(5)(b), Wis. Adm. Code]

4. Application For a Different Type of Permit:
If the owner or operator wants to be covered by a different type of permit , the owner or operator shall request in writing that coverage under this registration operation permit be withdrawn, and shall submit an application for a different type of permit. Until a new permit has been issued, the owner or operator shall comply with the terms of this registration operation permit. [s. NR 407.105(6)(a) and (7), Wis. Adm. Code]

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[13] A template for this report is available for download through DNR's registration permit website at http://www.dnr.state.wi.us/org/aw/air/apii/regpermits.html

[14] A list of DNR air compliance staff, by county is available at http://www.dnr.state.wi.us/org/aw/air/reg/countyresp.pdf

5. Relocation Requirements:

a. If the owner or operator wants to relocate and the facility will still qualify for this registration permit, at least 15 days prior to a change in the location of the facility the owner or operator shall provide written notice to the Department providing the exact location where the facility will operate.

b. If the owner or operator wants to relocate and the facility will no longer qualify for this registration permit, or if the owner or operator wants to obtain a different type of permit, prior to the change in location of the facility, the owner or operator shall submit to the Department a permit application for a different type of operation permit.

c. If a facility relocates to a location with a different emission threshold in condition A.1. for any pollutant during any calendar year, the owner or operator shall calculate the amount of emissions that occurred at the previous location and the amount of emissions that occurred at the new location. The owner or operator shall compare those emission rates to the appropriate thresholds in condition A.1. of this permit. If the emission rate of any pollutant at the new location is greater than its emission limit, the owner or operation shall apply for a different type of operation permit within 60 days of identifying the exceedance.

[ss. NR 407.105(1)(c) and (5)(a), Wis. Adm. Code]

6. Annual Air Emission Fees:

The permittee shall pay an annual emissions fee to the Department at the rate specified in s. 285.69(2), Wis. Stats. [ss. NR 410.04 and NR 407.09(1)(e), Wis. Adm. Code]

7. Safe Harbor:

If the owner or operator identifies an applicable requirement in chs. NR 400-499, Wis. Adm. Code, that was previously not identified through its search and evaluation, and the facility is not, or has not been, in compliance with the requirement, the owner or operator will not be considered to be out of compliance if they do all of the following:

a. Submit written notification to the Department within 21 days of identifying the applicable requirement;

b. Submit documentation to the Department demonstrate that the search and evaluation that was conducted prior to identifying the applicable requirement was reasonable; and

c. Certify that the facility is in compliance with the applicable requirement no later than 90 days after notifying the Department of the identification of the applicable requirement. If requested, the Department may extend the deadline for achieving compliance.[15]

[ss. NR 439.03(1)(a) and NR 407.105(7), Wis. Adm. Code]

E. CONTROL OF ORGANIC COMPOUNDS FROM PROCESS LINES

1. Process lines that emit volatile organic compounds, and which are not exempt under s. NR 424.03(1), Wis. Adm. Code, shall meet the requirements of s. NR 424.03(2) or (3), Wis. Adm. Code, by doing one of the following:

a. Control the volatile organic compound emissions by at least 85%; **or**

b. Apply latest available control techniques and operating practices demonstrating best current technology (LACT). The Department approved LACT conditions are found in E.2. and E.3., below. The LACT as described in this permit must be followed at all times the process line is operating; **or**

c. If a surface coating or printing process meets the applicability criteria of a reasonably available control technology (RACT) limit listed in ss. NR 422.05 to 422.155, Wis. Adm. Code, but is exempt from that RACT under s. NR 422.03, Wis. Adm. Code, meet that applicable RACT limit instead of meeting a. or b., above. All elections under this condition must be approved in advance by the Department in writing.

[ss. NR 407.105(1)(c) and NR 424.03(2) and (3), Wis. Adm. Code.]

2. DEPARTMENT APPROVED LACT

With the exception of Hot Mix Asphalt Plants, LACT for a VOC process line has been determined to be the following requirements:

[15] The department retains the authority to order the owner or operator to achieve compliance with the applicable requirements within a specific time period shorter than the 90 calendar days whenever compliance in the shorter period of time is feasible and necessary to protect public health and the environment.

a. The process line may not emit more than 10 tons of volatile organic compound emissions per calendar year[16];For spray coating operations, one or more of the following coating techniques shall be used: low pressure spray such as high volume low pressure (HVLP), electrostatic spray, powder coating, or other application technique approved in advance by the Department; and

b. By March 1 of each year, the owner or operator shall calculate the amount of volatile organic compounds emitted for the process line for the previous calendar year.

[ss. NR 407.105(1)(c) and NR 424.03(2)(c), Wis. Adm. Code.]

3. DEPARTMENT APPROVED LACT FOR HOT MIX ASPHALT PLANTS

a. Each year, within 30 days of the onset of hot mix production, and after that point, once within 20,000 tons of every additional 100,000 tons of hot mix production, a burner check shall be performed to determine the optimum levels[17] of the following parameters:

(1) Carbon monoxide (CO) and oxygen (O_2) levels in the drum, using a portable combustion analyzer, corresponding to burner operation in the most efficient manner, where the test port is located in the drum between the burner and the hot mix asphalt line, at the knock-out box, or in the duct-work after the drum;

(2) Draft pressure levels at the front of the drum to assure the most efficient burner operation, measured by means of a pressure gauge (i.e., photohelic gauge) or other type of controller that controls a variable damper located in front of or behind the induced draft fan;

(3) The following liquid fuel viscosity and gaseous fuel pressure and fuel feed conditions:

(a) Liquid fuel temperature for each liquid fuel;

(b) Pump pressure for each liquid fuel; and

(c) Gaseous fuel pressure.

b. The hot mix asphalt plant shall undergo a minimum of one burner check annually unless a written waiver is obtained from the Department.

c. The owner or operator shall perform weekly inspections to ensure that the plant drum has tightly sealing drum end seals and duct work which keep air in-leakage to a minimum.

d. The owner or operator shall maintain records of the optimum levels of the parameters in Condition E.3.a., of this permit.

e. The owner or operator shall maintain records of the burner checks and weekly inspections required under Conditions E.3.b. and E.3.c., of this permit. These records shall include the date of each action.

[ss. NR 407.105(1)(c) and NR 424.03(2)(c), Wis. Adm. Code.]

F. AIR POLLUTION CONTROL DEVICE REQUIREMENTS

Table 2. Air Pollution Control Device Efficiencies

Control Device	Control Efficiency (Total Enclosure)[18]			Control Efficiency (Hood)		
	PM	PM_{10} and PHAP	VOC and VHAP	PM	PM_{10} and PHAP	VOC and VHAP
Low efficiency cyclone[19]	40%	20%	-	32%	16%	-
Medium efficiency cyclone[19]	60%	40%	-	48%	32%	-
High efficiency cyclone[19]	80%	60%	-	64%	48%	-
Multiple cyclone w/out flyash reinjection	80%	60%	-	64%	48%	-
Multiple cyclone with fly ash reinjection	50%	38%	-	40%	30%	-

[16] This limit does not excuse the facility from having to meet the facility-wide VOC limits in condition A.1.

[17] The levels determined in this condition must follow the requirements as described in s. NR 439.055(3), Wis. Adm. Code. In this context, the optimum levels and most efficient burner operation is intended to provide a combustion environment which reduces or minimizes the emissions of organic compounds (i.e. products of incomplete combustion). Carbon monoxide (CO) and oxygen (O_2) measurements provided a surrogate for the emissions of organic compounds. Reductions of the CO concentration without excessive oxygen dilution (minimum CO emissions) usually corresponds to efficient fuel utilization and a reduction in the emissions of organic compounds.

[18] VHAP = Volatile hazardous air pollutant, PHAP = Particulate hazardous air pollutant.

[19] See Table 4, below, to identify level of efficiency for cyclones.

Control Device	Control Efficiency (Total Enclosure)[18]			Control Efficiency (Hood)		
	PM	PM_{10} and PHAP	VOC and VHAP	PM	PM_{10} and PHAP	VOC and VHAP
Wet cyclone separator	50%	38%	-	40%	30%	-
HEPA and other wall filters (including paint overspray filters)	95%	95%	-	76%	76%	-
Fabric filters (e.g., baghouse, cartridge collectors)	98%	92%	-	78%	73%	-
Spray towers	80%	80%	70%	64%	64%	56%
Venturi scrubber	90%	85%	-	72%	68%	-
Condensation scrubber (packed bed)	90%	90%	-	72%	72%	-
Impingement plate scrubber	75%	75%	-	60%	60%	-
Electrostatic precipitators	95%	95%	-	76%	76%	-
Thermal oxidizers	-	-	95%	-	-	76%
Catalytic oxidizers	-	-	95%	-	-	76%
Condenser	-	-	70%	-	-	56%
Flaring or direct combustor	-	-	98%	-	-	78%
Biofilter	-	-	80%	-	-	64%

Table 3. Air Pollution Control Device Monitoring and Recordkeeping Requirements

Control Device	Parameter(s) to Monitor	Minimum Monitoring and Recordkeeping Frequency[20]
Centrifugal Collector (cyclone)	Pressure drop	Once every 8 hours of operation
Multiple cyclone w/out flyash reinjection	Pressure drop	Once every 8 hours of operation
Multiple cyclone with flyash reinjection	Pressure drop	Once every 8 hours of operation
Wet cyclone separator	Pressure drop and water flow rate	Once every 8 hours of operation
HEPA and other wall filters (including paint overspray filters)	Pressure drop **OR** Condition of filter including alignment, saturation and tears/holes	Once every 8 hours of operation Once per day of operation
Fabric filters (e.g., baghouse, cartridge collectors)	Pressure drop	Once every 8 hours of operation
Spray towers	Pressure drop and water flow rate	Once every 8 hours of operation
Venturi scrubber	Pressure drop and scrubber liquor flow rate	Once every 8 hours of operation
Condensation scrubber (packed bed)	Pressure drop and scrubber liquor flow rate	Once every 8 hours of operation
Impingement plate scrubber	Pressure drop and scrubber liquor flow rate	Once every 8 hours of operation
Electrostatic precipitators	Primary and secondary voltage, in volts; primary and secondary current, in amps; and sparking rate, in sparks per minute	Once every 8 hours of operation
Thermal oxidizers	Temperature in primary chamber and afterburner	Once every 15 minutes of operation
Catalytic oxidizers	Temperature in primary chamber and afterburner **AND** Catalyst bed reactivity	Once every 15 minutes of operation As per manufacturer specification
Condenser	Condenser outlet gas temperature	Once every 8 hours of operation
Flaring or direct combustor	Temperature indicating presence of flame	Continuous hardcopy readout **OR** hardcopy readout of instances of no flame
Biofilter	Bed temperature, moisture content	Once per day of operation

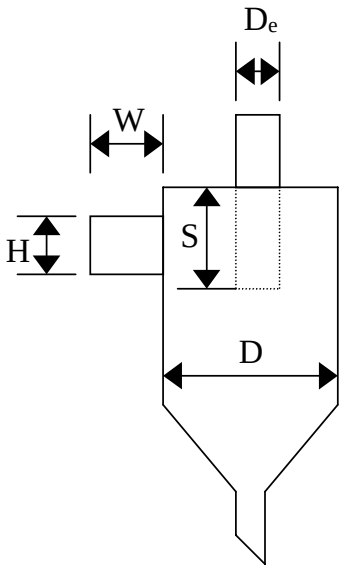
[20] Where this column indicates a monitoring and recordkeeping frequency of "once every 8 hours of operation", the permittee shall monitor and record the appropriate parameter(s) once per day of operation if it results in a greater number of measurements than once every 8 hours of operation.

Table 4. Cyclone Efficiency Table (see Diagram 1. on next page for cyclone dimension nomenclature)

Ratio Dimensions	High Efficiency	Medium Efficiency	Low Efficiency
Height of inlet, H/D	≤0.44	>0.44 and <0.8	≥0.8
Width of inlet, W/D	≤0.2	>0.2 and <0.375	≥0.375
Diameter of gas exit, D_e/D	≤0.4	>0.4 and <0.75	≥0.75
Length of vortex finder, S/D	≤0.5	>0.5 and <0.875	≥0.875

If one or more of the "ratio dimensions," as listed in Table 4, are in a different efficiency category (high, medium, low), then the lowest efficiency category shall be applied.

Diagram 1. Cyclone Dimension Nomenclature



G. ALLOWABLE NEW SOURCE PERFORMANCE STANDARDS

1. Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (s. NR 440.207, Wis. Adm. Code).
2. Standards of Performance for Hot Mix Asphalt Facilities (s. NR 440.25, Wis. Adm. Code).
3. Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction or Modification Commenced After June 11, 1973 and Prior to May 19, 1978 (s. NR 440.27, Wis. Adm. Code).
4. Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction or Modification Commenced After May 18, 1978 and Prior to July 23, 1984 (s. NR 440.28, Wis. Adm. Code).
5. Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After July 23, 1984 (s. NR 440.285, Wis. Adm. Code).
6. Standards of Performance for Grain Elevators (s. NR 440.47, Wis. Adm. Code).
7. Standards of Performance for Surface Coating of Metal Furniture (s. NR 440.48, Wis. Adm. Code).
8. Standards of Performance for Industrial Surface Coating: Large Appliances (s. NR 440.57, Wis. Adm. Code).
9. Standards of Performance for Petroleum Dry Cleaners (s. NR 440.68, Wis. Adm. Code).
10. Standards of Performance for Nonmetallic Mineral Processors (s. NR 440.688, Wis. Adm. Code).
11. Standards of Performance for Industrial Surface Coating of Plastic Parts for Business Machines (s. NR 440.72, Wis. Adm. Code).
12. Any New Source Performance Standard, where the facility or process is only subject to the recordkeeping or notification requirements of that standard.